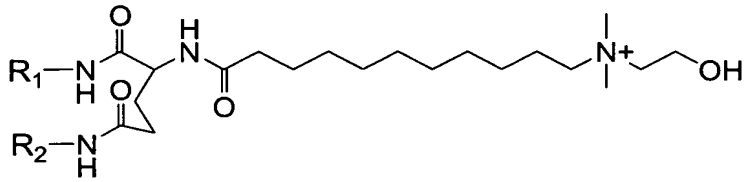
AMENDMENTS TO THE CLAIMS

In addition to the Article 34 Amendments submitted by the Applicants during the prosecution of the corresponding international patent application, we further amend the claims as follows:

1. (previously presented) A molecular-oriented polymer gel obtained by self-assembly of a self-organizable amphiphilic compound and a monomer interacting with said amphiphilic compound, and then polymerizing said monomer, said monomer being thiophene and/or its derivative, pyrrole and/or its derivative, or 2-acrylamide-2-methylpropanesulfonic acid.

2. (original) The molecular-oriented polymer gel according to claim 1, wherein said amphiphilic compound is a cation comprising a linear or branched alkyl group having 20 or less carbon atoms.

3. (previously presented) A molecular-oriented polymer gel obtained by self-assembly of a self-organizable amphiphilic compound and a monomer interacting with said amphiphilic compound, and then polymerizing said monomer, said amphiphilic compound being represented by the following general formula (I):



... (I),

wherein R_1 and R_2 represent linear or branched alkyl groups having 20 or less carbon atoms, which may be the same or different.

4. (previously presented) The molecular-oriented polymer gel according to claim 3, wherein said monomer is thiophene and/or its derivative, pyrrole and/or its derivative, or 2-acrylamide-2-methylpropanesulfonic acid, or another anionic monomer than said thiophene derivative and said pyrrole derivative.

5. (original) The molecular-oriented polymer gel according to claim 4, wherein said anionic monomer comprises a sulfonic group.

6. (original) The molecular-oriented polymer gel according to claim 5, wherein said anionic monomer is 2-acrylamide-2-methylpropanesulfonic acid.

7. (currently amended) The molecular-oriented polymer gel according to claim 2~~any one of claims 2 to 6~~, wherein the linear or branched alkyl group of said amphiphilic compound has 10 or less carbon atoms.

8. (Canceled)

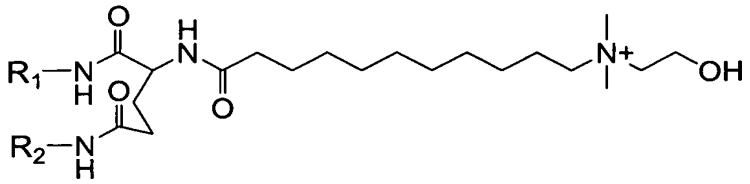
9. (currently amended) The molecular-oriented polymer gel according to claim 4~~any one of claims 1, 2, 4 and 7~~,wherein said thiophene derivative is at least one selected from the group consisting of 3-thiophencarboxylic acid, 3-thiophenacetic acid, 3-thiophene ethanol, 3,4-ethylenedioxythiophene and bis(thiophene), and wherein said pyrrole derivative is 3-pyrrolecarboxylic acid or 3-pyrroleacetic acid.

10. (previously presented) A molecular-oriented polymer cast film obtained by casting a solution of a self-organizable amphiphilic compound and a monomer interacting with said amphiphilic compound, and then polymerizing said monomer, said monomer being thiophene and/or its derivative, pyrrole and/or its derivative, or 2-acrylamide-2-methylpropanesulfonic acid.

11. (original) A molecular-oriented polymer cast film obtained by casting a solution of a self-organizable amphiphilic compound on an electrode, and then supplying current to said electrode in a solution containing a monomer which is thiophene and/or its derivative, or a monomer which is pyrrole and/or its derivative, to electrolytically polymerize said monomer.

12. (currently amended) The molecular-oriented polymer cast film according to claim ~~10 or~~ 11, wherein said amphiphilic compound is a cation comprising a linear or branched alkyl group having 20 or less carbon atoms.

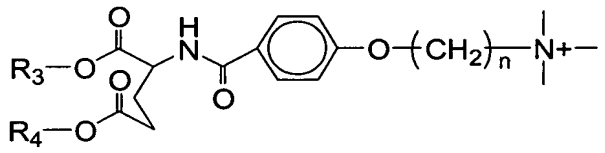
13. (previously presented) A molecular-oriented polymer cast film obtained by casting a solution of a self-organizable amphiphilic compound and a monomer interacting with said amphiphilic compound, and then polymerizing said monomer, said amphiphilic compound being represented by the following general formula (I):



... (I),

wherein R_1 and R_2 represent linear or branched alkyl groups having 20 or less carbon atoms, which may be the same or different.

14. (original) The molecular-oriented polymer cast film according to claim 12, wherein said cation is represented by the following general formula (II):



... (II),

wherein R_3 and R_4 represent linear or branched alkyl groups having 20 or less carbon atoms, which may be the same or different, and n is an integer of 2 to 12.

15. (previously presented) The molecular-oriented polymer cast film according to claim 13, wherein said monomer is thiophene and/or its derivative, pyrrole and/or its derivative, or another anionic monomer than said thiophene derivative and said pyrrole derivative.

16. (previously presented) The molecular-oriented polymer cast film according to claim 15, wherein said anionic monomer other than said thiophene derivative and pyrrole derivative is 2-acrylamide-2-methylpropanesulfonic acid.

17. (currently amended) The molecular-oriented polymer cast film according to claim 15~~any one of claims 10 to 12, 14 and 15~~, wherein said thiophene derivative is at least one selected from the group consisting of 3-thiophencarboxylic acid, 3-thiophenacetic acid, 3-thiophene ethanol, 3,4-ethylenedioxythiophene and bis(thiophene), and wherein said pyrrole derivative is 3-pyrrolecarboxylic acid or 3-pyrroleacetic acid.

18. (currently amended) A method for producing the molecular-oriented polymer gel recited in claim 1~~any one of claims 1 to 7 and 9~~, comprising the steps of mixing said amphiphilic compound and said monomer to self-organize them, and then polymerizing said monomer.

19. (original) The method for producing a molecular-oriented polymer gel according to claim 18, wherein the polymerization reaction of said monomer is carried out at a temperature lower than a phase transition temperature of a self-organized-to-molecular-level body of said amphiphilic compound and said monomer.

20. (currently amended) A method for producing the molecular-oriented polymer cast film recited in claim 10~~any one of claims 10 to 17~~, comprising the steps of preparing a solution of said amphiphilic compound and said monomer, casting said solution, and then polymerizing said monomer.

21. (currently amended) A method for producing the molecular-oriented polymer cast film recited in claim 10~~any one of claims 10 to 17~~, comprising the steps of preparing a solution of said amphiphilic compound, casting said solution on an electrode, dried said solution to form a film of said amphiphilic compound, immersing said film in a solution comprising said monomer, and supplying current to said electrode to electrolytically polymerize said monomer.

22. (currently amended) The method for producing a molecular-oriented polymer cast film according to claim 20~~or 21~~, wherein the polymerization reaction of said monomer is carried out at a temperature lower than a phase transition temperature of a self-organized-to-molecular-level body of said amphiphilic compound and said monomer.